

RECENT DEVELOPMENTS IN HIGH GRADIENT MAGNETIC SEPARATION (HGMS) FOR COAL DESULFURIZATION. Y. A. Liu. Department of Chemical Engineering, Auburn University, Auburn University, Alabama 36849.

The objectives of this paper are to describe the basic principles of HGMS, to discuss the general design features of laboratory and industrial HGMS units and to review the recent developments of HGMS processes applied to coal desulfurization. In particular, this paper summarizes the currently available, technical and economical information on various HGMS processes for desulfurization of coal/water slurry, dry pulverized coal, reacted coal slurries (liquefied coal), coal/oil mixture and coal/methanol slurry. In addition, the use of several physical and chemical methods as pretreatment steps for magnetic desulfurization is described. Of particular interest in this paper is a status report of novel continuous HGMS processes being developed for desulfurization of dry pulverized coal for utility applications.